

that a total of approximately 1.1 million cubic meters (39 million cubic feet) of low-level radioactive waste will be disposed of at the Test Site through 2070 (DIRS 155856-DOE 2000, Table 4-1, p. 4-2), not including repository-generated waste.

Commercial spent nuclear fuel generators and contractor-operated transportation facilities such as an intermodal transfer station would dispose of low-level radioactive waste in commercial facilities.

Commercial disposal capacity for low-level radioactive wastes is available at three licensed facilities (DIRS 152583-NRC 2000, U.S. Low-Level Radioactive Waste Disposal Section).

3.1.12.5 Materials Management

DOE has programs and procedures in place to procure and manage hazardous and nonhazardous chemicals and materials (DIRS 104842-YMP 1996, all). By using these programs, the Department is able to minimize the number and quantities of hazardous chemicals and materials stored at the Yucca Mountain site and maintain appropriate storage facilities.

The chemical and material inventory report (DIRS 148107-Dixon 1999, pp. 4, 4a, and 5) for the Nevada State Fire Marshal's office lists 33 hazardous chemicals and materials. The Yucca Mountain Project holds many of these in small quantities, and it stores sulfuric acid in larger quantities [above the threshold planning quantity of about 450 kilograms (1,000 pounds) that requires emergency planning]. Most of the sulfuric acid is in lead-acid batteries (DIRS 148107-Dixon 1999, all). In addition, the Yucca Mountain Site Characterization Project stores the following hazardous chemicals in large amounts [exceeding 4,500 kilograms (10,000 pounds)]: propane, gasoline, cement, and lubricating and hydraulic oils. The project does not store highly toxic substances in quantities higher than the State of Nevada reporting thresholds (DIRS 148107-Dixon 1999, p. 1).

3.1.13 ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs each Federal agency "to make achieving environmental justice a part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

DOE has identified the minority and low-income communities in the Yucca Mountain region of influence, which consists of Clark, Lincoln, and Nye Counties in southern Nevada. Unless otherwise noted, the *Environmental Baseline File for Environmental Justice* (DIRS 105004-CRWMS M&O 1999, all) is the basis for information in this section.

To identify minority and low-income communities in the region of influence, DOE analyzed Bureau of the Census population designations called *block groups*. DOE pinpointed block groups where the percentage of minority or low-income residents is meaningfully greater than average. For environmental justice purposes, the pinpointed block groups are minority or low-income communities. This EIS considers whether activities at Yucca Mountain could cause disproportionately high and adverse human health or environmental effects to those communities.

ENVIRONMENTAL JUSTICE TERMS

Minority: Hispanic, Black, Asian/Pacific Islander, American Indian/Eskimo, Aleut, and other non-white person.

Low income: Below the poverty level as defined by the Bureau of the Census.

3.1.13.1 State of Nevada

Minority persons comprised 21 percent of the population in Nevada in the 1990 census (DIRS 103118-Bureau of the Census 1992, Table P8; DIRS 103119-Bureau of the Census 1992, Table P12). In the 2000 Census, minority persons comprised 35 percent of the population of Nevada (DIRS 156909-Bureau of the Census 2001, p. 1 of Table DP-1; Nevada). It should be noted, however, that between the 1990 Census and the 2000 Census, changes in the Bureau of the Census definitions modified previous race and ethnic categories and for the first time permitted citizens to identify themselves as belonging to more than one category. The Bureau's *Overview of Race and Hispanic Origin*, a Census 2000 Brief issued in March 2001, stated (DIRS 157135-Bureau of the Census 2001, all):

Because of these changes, the Census 2000 data on race are not directly comparable with data from the 1990 census or earlier censuses. Caution must be used when interpreting changes in racial composition of the U.S. population over time.

The environmental justice analysis considered the potential for disproportionately high and adverse impacts on two portions of the overall population—minority communities and low-income communities. While 2000 Census data concerning minority communities in Nevada was available at the block level in time for the Final EIS analysis, comparable 2000 Census data on low-income communities was not. The Final EIS presents 2000 Census data at the block level on minority communities and 1990 Census data at the block group level on low-income communities. This data is the most up-to-date information available for each.

As a consistent criterion for identifying minority and low-income blocks and block groups, DOE employed a 10-percent threshold, meaning that the environmental analysis focused on blocks and block groups in Nevada having a 10-percent or greater minority population or low-income population than the State averages. DOE adopted the 10-percent threshold for the Draft EIS from a 1995 Nuclear Regulatory Commission document, *Interim NRR Procedure for Environmental Justice Reviews* (DIRS 103426-NRC 1995, all). This threshold is consistent with the recent revision of the Nuclear Regulatory Commission's guidance on environmental justice (DIRS 157276-NRC 1999, all).

The environmental justice analysis identified minority communities at the Bureau of the Census block level and low-income communities at the Bureau of the Census block group level. Figure 3-27 shows blocks in the State of Nevada in which 45 percent or more of the population consists of minority persons, according to the 2000 Census. The difference between block level and block group level can be seen in comparing Figure 3-27 to Figure 3-28, which identifies low-income communities at the block group level. The block is a finer resolution; the block group presents the criterion over an aggregate of blocks. Both types of data sets have advantages over the other, depending on the specific analysis being performed. Census blocks can be quite large in rural areas where population density is low because they are associated with a relatively small number of persons. In populous areas such as Las Vegas, the block size is usually quite small and is not clearly depicted on a scale such as that shown in Figure 3-27. Figure 3-29 shows blocks in the Las Vegas area with 45 percent or higher minority population.

The 1990 census characterized about 10 percent of the people in Nevada as living in poverty (DIRS 103120-Bureau of the Census 1992, Table P117). The Bureau of the Census characterizes persons in poverty as those whose income is less than a statistical poverty threshold, which is based on family size and the ages of its members. In the 1990 census the threshold for a family of four was a 1989 income of \$12,674 (DIRS 102119-Bureau of the Census 1995, Section 14). In this environmental impact statement, low-income communities are those block groups in which the percentage of persons in poverty equals or exceeds 20 percent as reported by the Bureau of the Census. Figure 3-28 shows low-income communities in Nevada by block group. Figure 3-30 shows low-income communities in the Las Vegas area by block group.

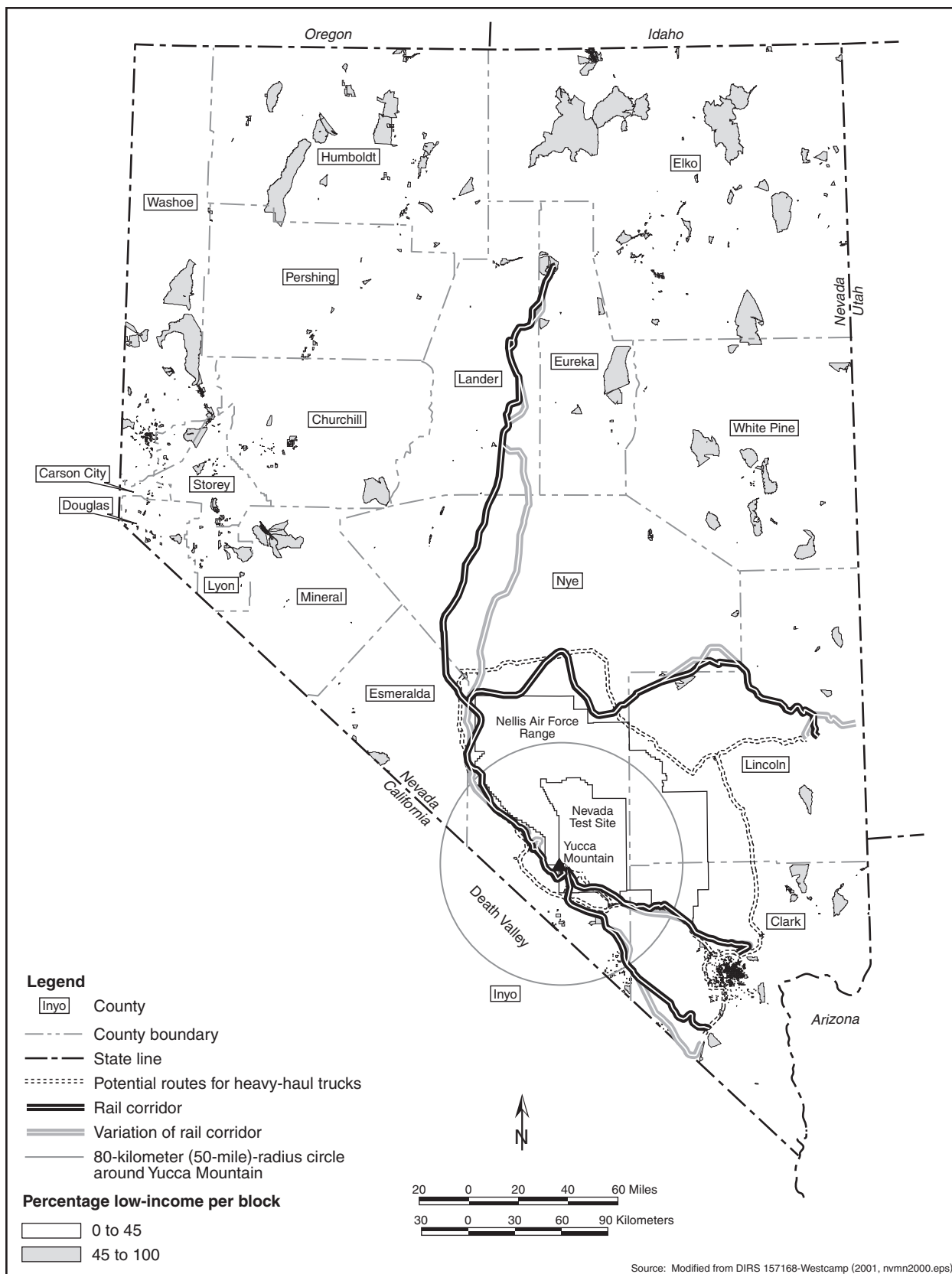


Figure 3-27. Minority communities in Nevada.

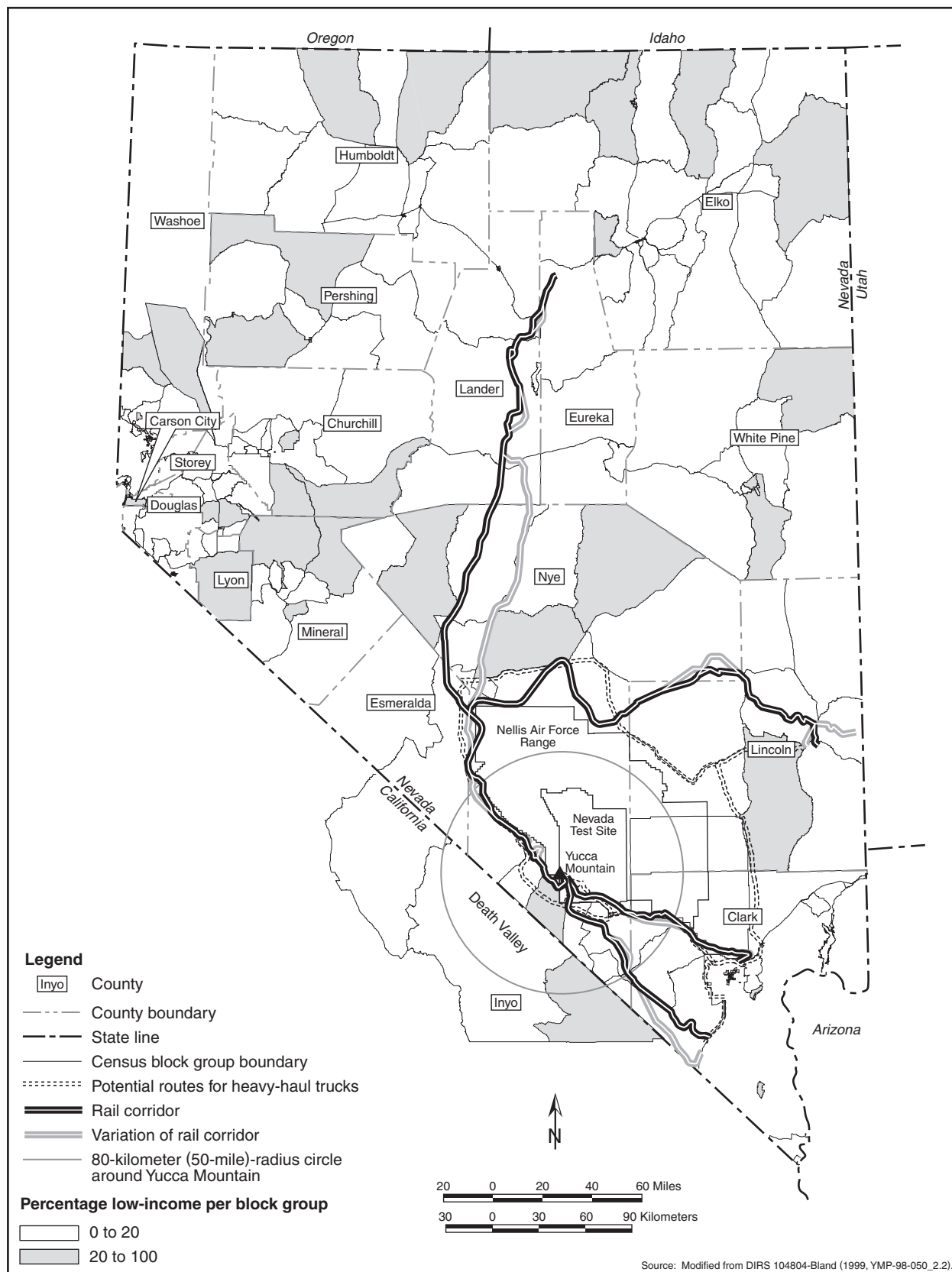


Figure 3-28. Low-income communities in Nevada.

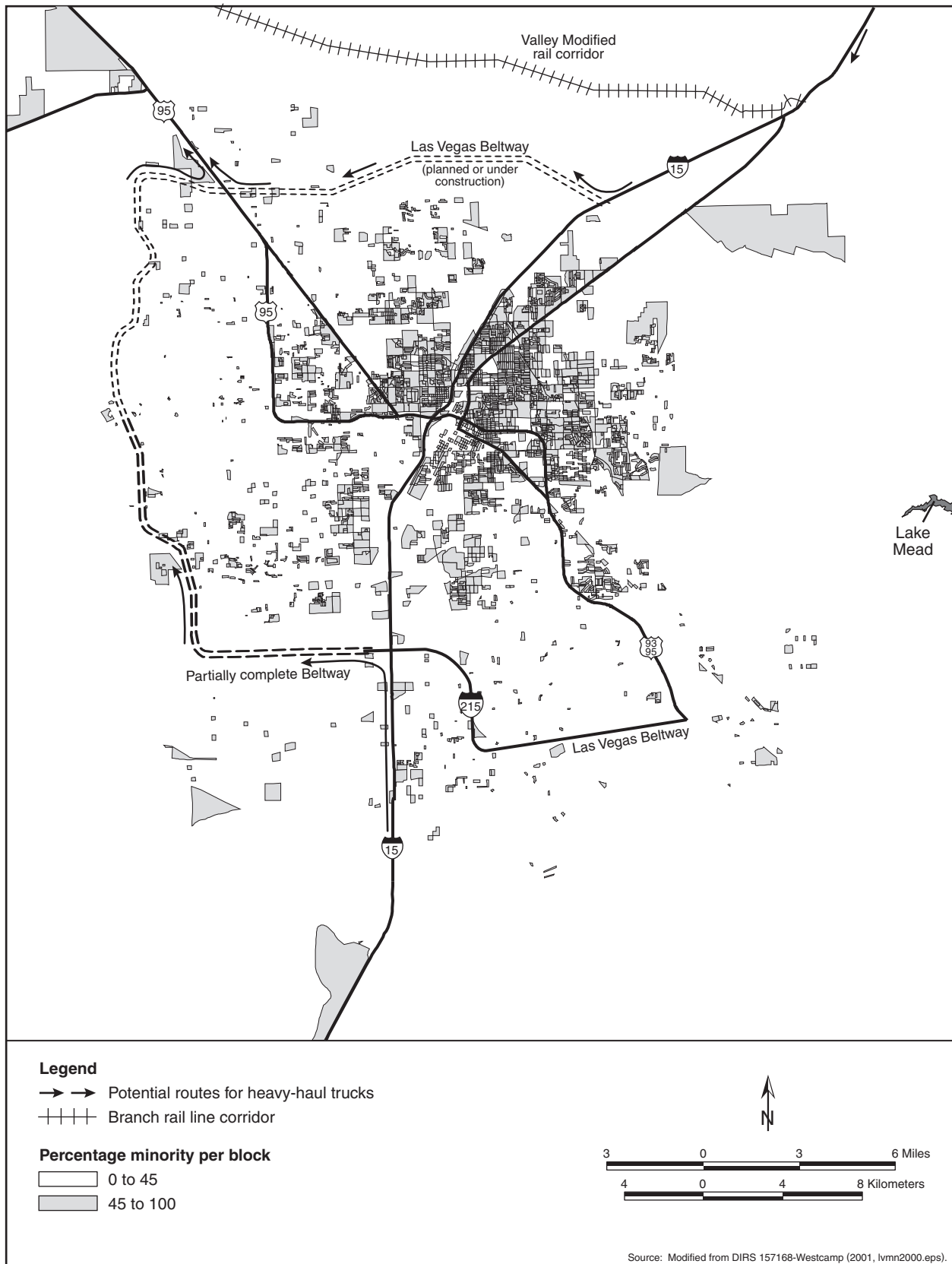


Figure 3-29. Minority census blocks in the Las Vegas metropolitan area.

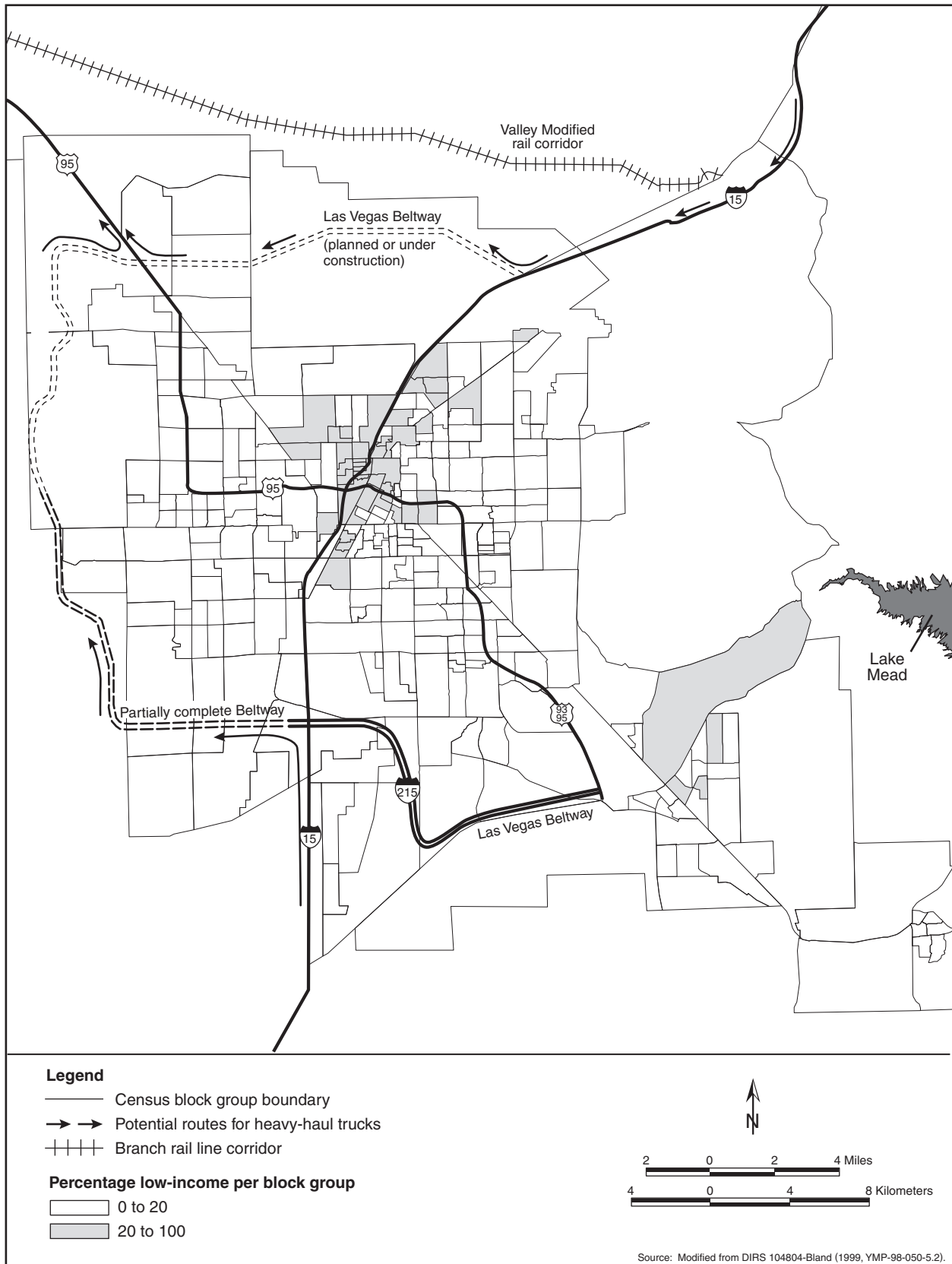


Figure 3-30. Low-income census block groups in the Las Vegas metropolitan area.

3.1.13.2 Clark County

In 2000, the minority population of Clark County was about 548,000 persons, or 40 percent of the *total population* (DIRS 156909-Bureau of the Census 2001, p. 3 of Table DP-1; Clark County). In 1990, a total of about 80,000 residents, or 11 percent of the Clark County population, was characterized as living in poverty (DIRS 103123-Bureau of the Census 1992, Table P117).

3.1.13.3 Lincoln County

In 2000, the Lincoln County minority population consisted of about 450 persons, or 10 percent of the population (DIRS 156909-Bureau of the Census 2001, p. 10 of Table DP-1; Lincoln County). In 1990, 500 persons, or 14 percent of the population, were characterized as living in poverty (DIRS 103127-Bureau of the Census 1992, Table P117).

3.1.13.4 Nye County

In 2000, the Nye County minority population was about 5,000 persons, or 15 percent of the population (DIRS 156909-Bureau of the Census 2001, p. 13 of Table DP-1; Nye County). In 1990, there were 2,000 persons, or 11 percent of the population, characterized as living in poverty (DIRS 103131-Bureau of the Census 1992, Table P117).

3.1.13.5 Inyo County, California

One block group with a low-income population located in the area of the Stewart Valley in Inyo County, California, lies partly within the 80-kilometer (50-mile) air quality region of influence for the repository (Figure 3-25). DOE performed additional review, including a ground survey, and concluded that low-income persons living in the block group would be likely to live outside the 80-kilometer region of influence for the repository.

3.2 Affected Environment Related to Transportation

This section describes the existing (or baseline) environmental conditions along the candidate rail corridors and truck (legal-weight and heavy-haul) routes to the Yucca Mountain site. The EIS treats these corridors and routes as current analytical tools and refers to them in the present tense. The EIS refers to impacts associated with these alternatives in the conditional voice (would) because they would not occur unless DOE proceeded with the Proposed Action. This convention is applied whenever the EIS discusses the transportation implementing alternatives.

DOE has made revisions to this section since the publication of the Draft EIS to present newly acquired information that contributes to an improved (or updated) understanding of the potentially affected environment, to address more specifically the affected environment along the rail corridor variations in Nevada, and to include information and suggestions for improvement provided through public comment on the Draft EIS and the Supplement to the Draft EIS. The more significant changes occur in the Nevada Transportation section (Section 3.2.2) and particularly in the discussion of candidate rail corridors (Section 3.2.2.1). Key changes to the Final EIS that deal with affected environment for transportation are summarized in the following:

- Incorporated updates to the land use discussions based on actions since the Draft EIS, including land transfers to the Timbisha Shoshone Tribe for establishment of new reservation; and to Clark County for the development of the Ivanpah Valley Airport and the Apex Industrial Park.